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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional): VESPER 1

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]

on _____

Signature _____

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Application Number	Filed
09/866,793	May 30, 2001

First Named Inventor: Stephen Joseph Vesper

Art Unit	Examiner
1645	P. A. Duffy

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

- [ ] applicant/inventor.
- [ ] assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)
- [X] attorney or agent of record. Registration number 25,884
- [ ] attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____

Signature

Anne M. Kornbau
Typed or printed name

202-628-5197
Telephone number

October 6, 2005
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

[X] *Total of 1 forms are submitted.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

ATTY.'S DOCKET: VESPER=1

In re Application of:	)	Art Unit: 1645
Stephen J. VESPER	)	Examiner: Patricia A. DUFFY
Serial No.: 09/866,793	)	Confirmation No. 5682
Filed: May 30, 2001	)	Washington D.C.
For: METHODS FOR ISOLATING AND USING FUNGAL...	)	October 6, 2005

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Honorable Commissioner for Patents
U.S. Patent and Trademark Office
Customer Window, Mail Stop **AF**
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

Concurrent with filing a notice of Appeal, Applicant respectfully requests a pre-appeal brief review of the rejections of record.

The Invention

The present invention is directed to methods for detecting exposures to fungi in a species-specific manner. This invention teaches that fungi that were previously not known to produce hemolysins do indeed produce these species-specific proteins. This is useful is because different fungi are associated with different diseases. The knowledge of the specific fungus causing the disease can affect prevention methods used or treatment protocols. Therefore, it is critical to be able to differentiate human exposures to a specific fungus, so that the proper medication at the proper dosage can be administered in a timely fashion.

This invention provides that these same specific hemolysins can be used to quantify the specific fungi in environmental samples. This is useful because one could monitor a hospital or home for the presence of problematic fungi in a timely fashion possibly preventing exposures.

Although it has been known for years that certain fungal pathogens like *Candida albicans* and *Aspergillus fumigatus* produced hemolysins, the present invention describe for the first time that

other fungi also produce these proteins. The application teaches how to use this knowledge to provide a useful product/service for the medical and environmental communities.

The fungal hemolysin protein may be present in blood, serum, urine, saliva, or other measurable body fluid of a human or animal exposed to the fungus. The method of measurement is not critical and can include GC-MS, MALDI-tof, immunoassays such as ELISA, RIA, or the like.

Claims at Issue

The claims under consideration are claims 23-28 submitted in an amendment filed February 15, 2005. The amendment filed June 24, 2005, was not entered.

Objections/Rejections Maintained

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. The Examiner alleges that there is no basis for the term "specific hemolysin-producing fungus."

Paragraph 0033 of the specification as filed states:

> By analyzing samples from a human or other animal for antibodies to a hemolysin-producing fungus, it is now possible to determine if the human or other animal has been exposed to such a fungus.

Paragraphs 0035-0037 describe specific fungi and screening methods.

Anyone skilled in the art is familiar with the last 50 years of scientific literature concerning hemolysins, both bacterial and fungal, and would therefore know that all hemolysins are species specific. The present invention thus provides a method to determine if a human or other animal has been exposed to a specific hemolysin-producing fungus.

It is respectfully submitted that paragraph 33 clearly states what is claimed herein, Paragraphs 0028-0032 teach how to prepare antibodies to the fungal hemolysin. In each instance, it is clear that each fungus produces a hemolysin that can be detected. There is nothing in the entire specification that would lead one skilled in the art to assume that multiple fungi produced the same hemolysin, *i.e.*, that an assay for a fungal hemolysin would not reveal

which fungus produced the hemolysin, otherwise the assay would not be useful.

Claims 23 and 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaguchi et al. in view of Harlow. The Examiner alleges that there is no evidence in the specification that the applicants discovered that certain fungi produce hemolysins, which are specific to the particular fungus producing the hemolysin.

It is respectfully submitted that the present invention indeed is directed to assaying for specific hemolysin-producing fungi, Paragraph 0015 specifically states that one object of the invention is to identify strains of fungi using an *in vitro* test. One skilled in the art would expect that the invention thus would be directed to identifying individual strains of fungi. One skilled in the art would not need to be told *in haec verba* that each fungus produces a unique hemolysin, because it is implied that the hemolysins are unique if one is able to identify strains of fungi. If the hemolysins were not unique, one could not identify strains of fungi.

The Examiner appears to be confusing antibody specificity with hemolysin specificity. Paragraph 0024 states that by growing strains of hemolysin producing fungi *in vitro* and isolating the hemolysin, it is now possible to use the protein obtained to identify fungi which are isolated from buildings, homes, schools and the like. If each fungus did not produce a species-specific hemolysin, it would be impossible to identify which fungi are present, or to which fungus or fungi an animal has been exposed.

As best this rejection can be understood, Sakaguchi et al. has been cited for teaching that antibodies to a fungal hemolysin can be used to detect infection in an animal infected therewith. Harlow et al. are cited for methods for producing antibodies.

Sakaguchi et al. injected mice with *A. fumigatus*. They then detected viable fungus in the kidney and brain ten days after challenge.

It is not understood how the Examiner can extrapolate from a description of a study of the course of infection of mice deliberately injected with a fungus and subsequent observation of infection in the kidneys, livers, internal organs of the mice, to an assay for a variety of specific fungi which does not involve taking tissue samples from the animal believed to be infected.

Sakaguchi et al. knew that the mice had been infected with *A, fumigatus*, and they were trying to determine how the infection affected the organs of the mice. There is nothing in Sakaguchi et al. that would lead one skilled in the art to assay a normal assay fluid (blood, urine, saliva, etc.) to determine if an animal has been exposed to specific fungi.

Harlow et al. add nothing to Sakaguchi et al., as Harlow et al. merely teach what are now conventional methods for obtaining antibodies.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaguchi et al.

The present invention is for determining if an animal has been exposed to a specific, hemolysin-producing fungus. Sakaguchi et al. teach a method for determining how a specific fungus affects an animal. Additionally, the Examiner stated on page 10 of the Office Action mailed April 8, 2005, that the method would inherently do so [a specific hemolysin could be used to identify each fungus]. It is respectfully submitted that the Examiner is taking information gleaned from the present specification and imputing this information to Sakaguchi et al. in order to render the instant claims obvious.

Claims 23-29 and 33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The Examiner alleges that there is nothing in the specification as filed relating to species specificity. However, this is in direct contrast to her allegation that Sakaguchi et al. inherently disclose that a specific hemolysin can be used to identify a specific fungus, *i.e.*, that a hemolysin is species-specific.

The specification at paragraph 0015 states that it is a further object of the invention to identify strains of fungi using an *in vitro* test. If the hemolysins were not species-specific, it would not be possible to identify strains of fungi, and there would be no reason to identify fungi using this test. This test is much simpler and faster than conventional assays.

Claims 30-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

It is not understood why one skilled in this art would not be able to detect fungi from a building suspected of being infested by

fungi. One skilled in the art, knowing that the test of the present invention can detect fungi, could readily, without undue experimentation, test samples from a building to detect any fungi that might be present there. The only difference between detecting exposure in an animal or human is that the sample taken from the building is different, as there are no bodily fluids, etc. in a building.

Claims 30-32 are rejected under 35 U.S.C. 12, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Contrary to the Examiner's assertion, "obtaining hemolysin from the sample if hemolysin-producing fungi are present in the sample," makes perfectly good sense. If hemolysin-producing fungi are indeed present in the sample, one obtains the hemolysin. However, if there are no hemolysin-producing fungi in the sample, one would not obtain hemolysin-producing fungi from the sample.

Claims 23-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

As the Examiner is well aware, there need not be support *in haec verba* for the claims. To identify specific fungi by this method, the fungi must produce different hemolysins. Thus, it is inherent in the claimed method that the hemolysins are species-specific.

In view of the above, it is respectfully submitted that the rejections of record are clearly not proper and are without basis, and reversal of the rejections is earnestly solicited.

Respectfully submitted,

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